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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/063,840	05/17/2002	Kishore C. Acharya	121800	7974

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CANTOR COLBURN, LLP  
55 GRIFFIN ROAD SOUTH  
BLOOMFIELD, CT 06002

EXAMINER
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JUNG, WILLIAM C

ART UNIT	PAPER NUMBER
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3737

DATE MAILED: 05/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/063,840	<b>Applicant(s)</b> ACHARYA ET AL.	
	<b>Examiner</b> William Jung	<b>Art Unit</b> 3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 March 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed March 9, 2005 have been fully considered but they are not persuasive.

Examiner respectfully disagrees with the Applicant. Regarding claims 1, 13, and 23-25 as discussed in remarks page 10, the Applicant's asserts emphasis that the prior art of record, Heuscher et al do not disclose each and every element, specifically, "communicating an exposure marker-in-signal to said electrocardiogram device such that said exposure marker-in-signal is associated with the EKG waveform data". However, Examiner would like to point out that Heuscher et al anticipate the above limitation since the CT image acquisition is gated by ECG or EKG where the gating provides specific phase, in other words, marker in the ECG or EKG.

In addition, regarding the Applicant's assertion of "an exposure marker-in-signal 228 being a CT event signal generated by CT imaging system 4 that is communicated to EKG monitoring device 2 via EKG sync marker input 8 so as to overlay EKG waveform data 200 and indicate the start of a CT scan", Heuscher et al device inherently disclose this limitation. As stated above, the marker-in-signal is disclosed. In addition, Heuscher et al's scanning includes specific protocol where the control of the CT scan use look up table to assess patient characteristic ECG, i.e. ECG waveform and phase in which the CT scan acquires the images (col. 5, line 61 – col. 6, line 9).

More over, as to Applicant's assertion of communication to the EKG monitoring device, Heuscher et al clearly anticipate this limitation since the CT control monitors the ECG or EKG

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data, i.e. communicates with ECG or EKG to obtain the phase information of the patient to control the CT scanning (col. 5, lines 54-60).

Furthermore, Heuscher et al inherently anticipate the display of ECG or EKG with Ct since the CT images synchronized with the ECG or EKG signal with gating information that includes the phase of the ECG or EKG waveform. Although Heuscher et al is silent as to the display format of the ECG or EKG data, the image reconstruction and display conveys this information through display. Thus, ECG or EKG waveform and markers are inherent in Heuscher et al.

Therefore, the rejection from the previous office action stands and repeated below with addition to claims 28-30.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-30 are rejected under 35 U.S.C. 102(b) as being anticipated by *Heuscher et al* (US 6,154,516).

Heuscher et al anticipate all claimed features in claims 1-30.

***Claims 1, 7, 9-13, 18-25, and 27:*** Heuscher et al disclose a method and system where EKG waveform data is used to gate of time a medical image device wherein the medical imaging device is a computed tomography image system. The image acquisition begins by first generating ECG or EKG waveform data using electrocardiogram device 80, 104 (figures 1 and

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2) and operating CT imaging system 10 to create CT images and communicating the EKG waveform data associated with the CT image data (col. 2, lines 13-24; col. 2, line 62 – col. 3, line 8; col. 4, line 7 – col. 7, line 59). In addition, Heuscher et al disclose an image memory medium 66, which stores image data with the correlated EKG or ECG waveform.

**Claims 2, 5, and 14:** Heuscher et al further disclose that the ECG or EKG monitor is coupled to a patient to monitor the heart activity or cardiac function (col. 6, lines 45-50).

**Claims 3, 4, 15, 16, 14-22, and 28-30:** Heuscher et al further disclose that the ECG or EKG waveform is displayed with the CT image on display 70 (col. 5, lines 37-53). Heuscher et al inherently anticipate the display of ECG or EKG with Ct since the CT images synchronized with the ECG or EKG signal with gating information that includes the phase of the ECG or EKG waveform. Although Heuscher et al is silent as to the display format of the ECG or EKG data, the image reconstruction and display conveys this information through display (col. 5, line 61 – col. 6, line 9; col. 7, lines 21-32). Thus, ECG or EKG waveform and markers are inherent in Heuscher et al.

**Claims 6, 8, and 17:** Heuscher et al disclose CT image correlation to the phase or the ECG or EKG waveform, i.e. peaks such as “R” (col. 7, lines 33-59).

**Claim 26:** Heuscher et al shows in figure 1 that the ECG is coupled to a patient in the center of the CT (however, the patient is not labeled).

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

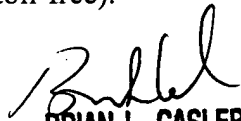
Any inquiry concerning this communication or earlier communications from the examiner should be directed to William Jung, Ph.D. whose telephone number is 571-272-4739. The examiner can normally be reached on Mon-Fri 8:30 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WJS

April 27, 2005

  
BRIAN L. CASLER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700